Sprint FONSAFE™

Learn Mode (LM) DS924 Motion Detector (PIR)
Material Code 822496
Model 60-511
Doc #46-940 Rev. A

INSTALLATION INSTRUCTIONS

OVERVIEW

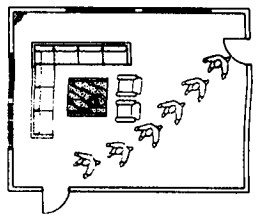
A Passive Infrared (PIR) Sensor is designed to detect movement in the interior of a structure. The coverage area of a PIR sensor is divided into several zones and the PIR senses infrared temperature changes in these zones. Any sudden thermal movement across these zones will cause the PIR to send an alarm signal to the MCU (Master Control Unit).

NOTE: Use this document for installaton of the Learn Mode Motion Detector. It also gives environmental conditions for the PIR and transmitter. Use the Detection Systems DS924 instructions (also included) as an additional reference.

The Learn Mode (LM) Motion Detector (PIR)...

- contains an RF transmitter capable of transmitting at least 500 feet open air.
- sends a low battery report (trouble) to the MCU.
- is powered by a 3.5 VDC battery.
- sends a supervisory signal to the MCU every 64 minutes.
- has a masking kit to mask portions of the coverage. Refer to the DS924 instructions for details on masking portions of coverage.
- can use different lenses to fit installation requirements.
- has a motion lockout feature. Once the transmitter sends a signal, the lockout feature will not allow the transmitter to send another signal for 3 minutes. The lockout feature is designed to prolong the lithium battery life.
- has a built-in walk test feature.
- has a built-in tamper switch that activates when the sensor's cover is removed. (The FONSAFE MCU currently does not monitor the tamper switch.)
- has an operating temperature of 10° to 120° F. (Operating temperatures in the DS924 instructions are different because they include just the PIR requirements.)

Figure 1
Detection path
overhead view



NOTE: It is important to read the DS924 instructions for proper setup and testing of the PIR.

The following are some guidelines for installation:

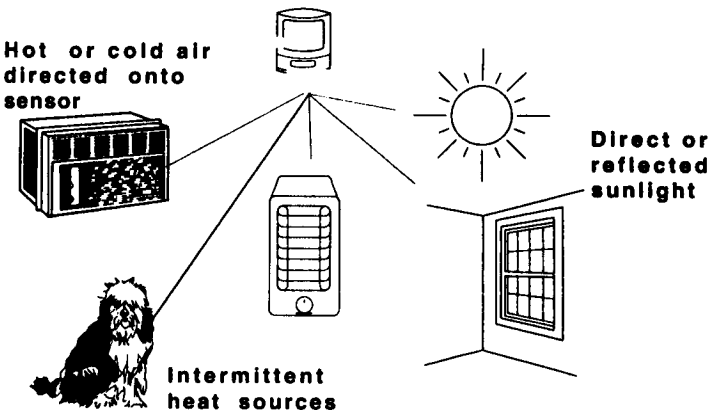
DO...

- try to keep all sensors within 100 feet of the MCU. The 100-foot distance recommendation is given as a starting guideline. The LM PIR has an open air range of at least 500 feet, but the installation environment will influence this range.
- mount the PIR so there is a reference point (such as a wall) at the end of its detection pattern.
- mount the sensor so that an intruder will most likely walk across the detection pattern. See Figure 1.
- mount the sensor 5 to 8 feet above the floor.
- mount on an insulated outside wall facing in.
- mount on a surface that is rigid and free from vibration.

DON'T...

- mount in direct sunlight. See Figure 2.
- aim at air conditioners, heat vents, wood stoves, fireplaces, intermittent heat sources, etc. See Figure 2.
- aim at solar-heated walls or uninsulated metal walls.
- aim at moving objects (ceiling fan, pets, etc.). See Figure 2.
- mount the sensor where it can be exposed to moisture
- place in locations where the temperature will exceed the sensor's operating limits of 10° to 120° F.
- mount in areas with excessive metallic surfaces or electrical wiring as these areas may inhibit the sensor's RF signals from reaching the MCU.
- mount in an area where the coverage may be blocked by any temporary items such as boxes or freight.

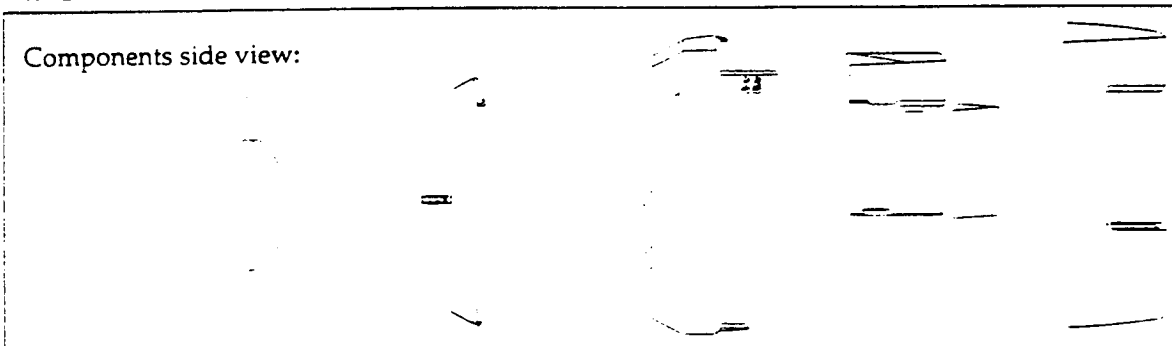
Figure 2
Locations to avoid



UL NOTE: UL listed for residential use only.

INSTALLATION

Components side view:



Swivel Ball | Swivel Bracket | Mounting Plate | PIR Base | Lens Holder | Lens | Cover

MOUNTING WITHOUT SWIVEL BRACKET

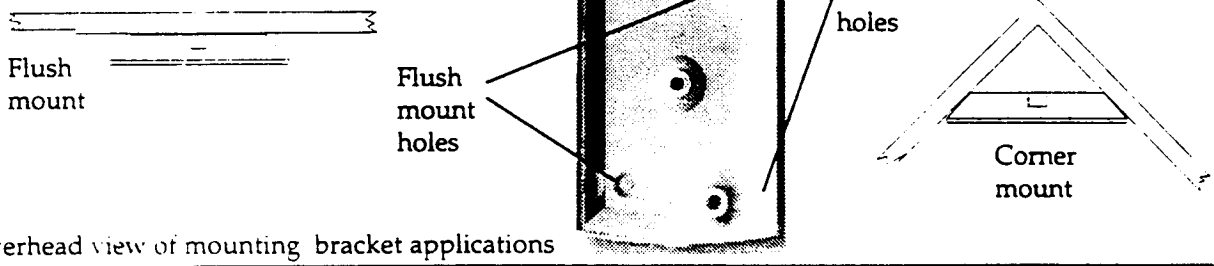
1. Remove Mounting Plate by gently pushing in with your thumb and prying it away from the PIR body (Fig. 7), then remove PIR cover as shown in Figure 3.

NOTE: If mounting on dry wall or plaster, we recommend drilling a 1/8 " pilot hole first. This will help determine what material is inside the wall then you can determine if a dry wall anchor or if just the #6 x 1" wood screw should be used.

Figure 3

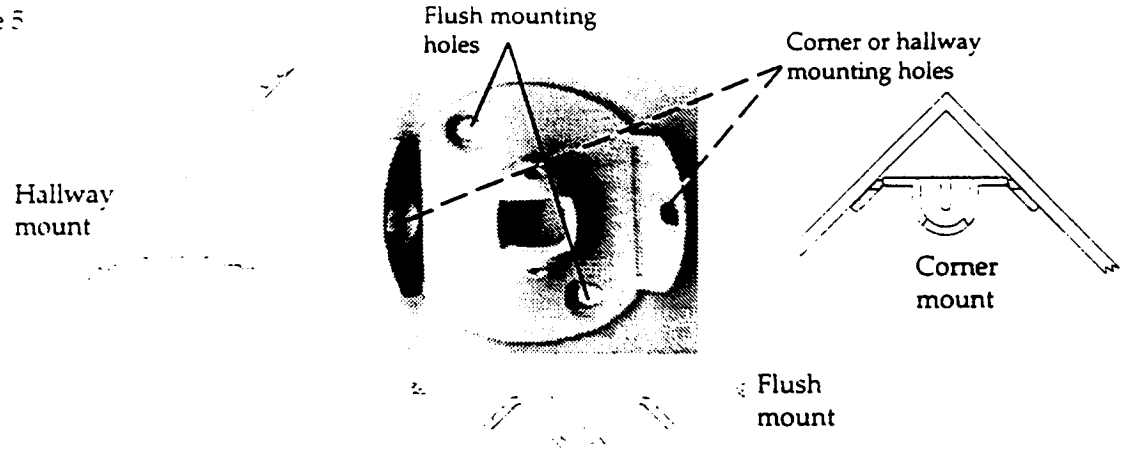
2. Secure the Mounting Plate using either corner mount knock outs or surface mount knock outs according to the installation needs. Refer to figure 4. Use the # 6 x 1" wood screws provided with the PIR.
3. Replace PIR body into Mounting Plate, and secure it to the mounting plate with Mounting plate screw. Refer to Fig. 8 for screw location.
4. Set pulse sensitivity; see the DS924 instructios for details.

Figure 4



Overhead view of mounting bracket applications

Figure 5



Overhead view of different swivel bracket applications

MOUNTING WITH SWIVEL BRACKET

1. Remove Mounting Plate by gently pushing in with your thumb and prying it away from the PIR base. Refer to Fig. 7.

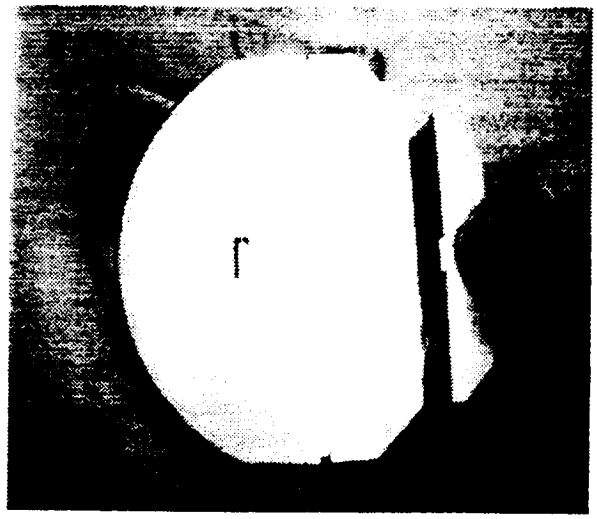
NOTE: If mounting on dry wall or plaster, we recommend drilling a 1/8 " pilot hole first. This will help determine what material is inside the wall then you can determine if a dry wall anchor or if just the #6 x 1" wood screw should be used.

2. Mount Swivel Bracket with # 6 x 1" wood screw for corner mount, flat surface or flat surface with a hallway orientation as shown in Figure 5.

Figure 6

Securing the mounting plate to the swivel bracket

Figure 7



Mounting plate removal

3. Using the # 6 x 5/8" metal screw secure Mounting Plate to Swivel Bracket, refer to Fig 6. Tighten screw until snug. Do Not fully tighten at this time.

4. Replace PIR base into Mounting Plate. Check the PIR for correct alignment (Refer to Detection Systems instructions for walk testing), when done gently remove PIR base from Mounting Plate and fully tighten the metal screw in the Swivel Bracket.

5. Replace PIR base into Mounting Plate, and secure it to the mounting plate with the Mounting plate screw. Refer to Figure 8 for screw location.

LENS REPLACEMENT

See the DS924 instructions for details on the different lens coverage and lens replacement. Many lens options are available for the DS924 PIR. If you require a different detection pattern for your application, select the appropriate lens from the DS924 installation instructions. A list of ITI part numbers and associated lens patterns is provided below.

ITI Part No.	Lens Pattern
13-286	Long range Lens
13-287	Pet Alley Lens
13-288	Wide Angle Lens

PROGRAMMING

A general guideline for programming this sensor is:
1. Set the CPU to Program Mode.

2. Trip the sensor's tamper by removing the PIR's cover.

3. Restore the tamper by replacing the PIR's cover.

NOTE: Refer to the appropriate CPU installation manual for specific instructions for programming this device.

WALK TESTING

NOTE: Refer to the Detection Systems DS-924 instructions to perform a walk test.

NOTE: Refer to the CPU installation manual for specific sensor testing procedures.

RF TESTING

General guidelines for performing a Dealer Sensor Test are:

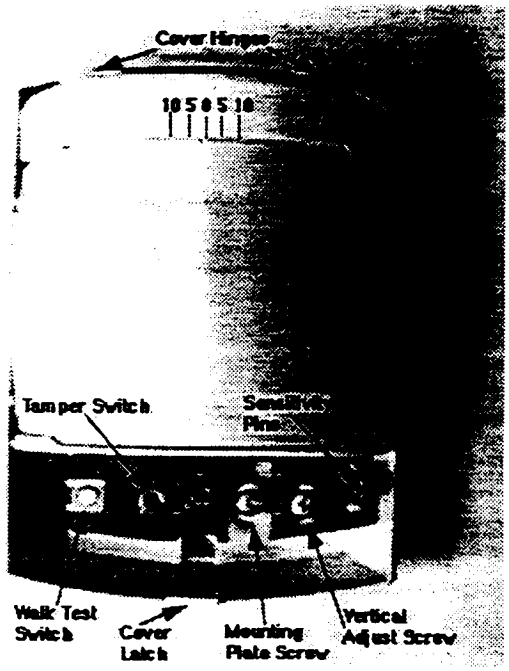
1. Open the cover on the PIR and press the Walk Test switch for approximately 3 seconds. Refer to Fig. 8 for switch location.

2. Replace the PIR's cover.

3. Using the appropriate touchpad for the CPU, enter the applicable Dealer Sensor Test code for that CPU.

4. Move across the detection pattern until Walk Test LED turns ON, stop your motion.

Figure 8



Internal view

5. Note the number of beeps (from the CPU) indicating how many RF signals (rounds) the CPU heard from the PIR .

NOTE: On Walk Test you must allow 10 seconds between tests. Walk Test will end automatically once the PIR sees no motion for 90 seconds.

FCC NOTICE

This device complies with FCC Rules Part 15. Operation is subject to the following two conditions:
1. This device may not cause harmful interference.
2. This device must accept any interference that may be received, including interference that can cause undesired operation.

Changes or modifications not expressly approved by Interactive Technologies, Inc. can void the user's authority to operate the equipment